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SHUMAKER & SIEFFERT, P.A
1625 RADIO DRIVE , SUITE 300
WOODBURY, MN 55125

EXAMINER	
RICHARDSON, THOMAS W	

ART UNIT	PAPER NUMBER
2144	

NOTIFICATION DATE	DELIVERY MODE
06/10/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pairdocketing@ssiplaw.com

Office Action Summary	Application No.	Applicant(s)	
	10/687,989	PILLAY ESNAULT, PADMA	
	Examiner	Art Unit	
	THOMAS RICHARDSON	2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-16,18-27 and 29-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-16,18-27 and 29-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 2, 4-16, 18-27, and 29-41 are pending for examination.

Claims 3, 17, and 28 are cancelled.

Claims 1, 7 -10, 13, 16, 24, 27, 32, and 39 are amended.

Claims 1, 2, 4-16, 18-27, and 29-41 are rejected.

Allowable Subject Matter

The indicated allowability of claims 3, 4, 7, 8, 10-15, 17-26, 28-30, and 32-41 is withdrawn in view of the newly discovered reference(s) to receiving a command to configure the export policy of a routing advertisement device. Rejections based on the newly cited reference(s) follow.

Specification

The specification was received on 25 March 2008. This specification is accepted.

Claim Objections

Claim 4 is objected to because of the following informalities: Claim is dependent on claim 3, which is cancelled. Examiner assumes claim to be dependent on independent claim 1.

Claim 29 is objected to because of the following informalities: Claim is dependent on claim 28, which is cancelled. Examiner assumes claim to be dependent on independent claim 27.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0188018, Guerrero et al and *TCP/IP Network Administration*, Hunt (previously cited).

3. As per claim 7, Guerrero teaches a method comprising:

maintaining a count of addresses in a table (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table); and

rejecting additional addresses when the count exceeds an address limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full); and

updating routing information when the count exceeds the export limit to clear the routes exported (page 2, paragraph [0028], where the lookup table modification device may accept the update instruction and drop routes from the table to perform the update).

Guerrero does not teach a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

routes are exported to an interior routing protocol (page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the

addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

4. Claims 1, 2, 4, 8-13, 15, 16, 18-27, 29, and 31-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0188018, Guerrero et al, US 7 334 047, Pillay-Esnault, and *TCP/IP Network Administration*, Hunt.

5. As per claim 1, Guerrero teaches a method comprising:

maintaining a count of addresses in a table (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table); and

rejecting additional addresses when the count exceeds an address limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not expressly teach the limit being set by a command from a client. Pillay-Esnault teaches selective LSA blocking wherein:

> a device may be configured to export and block link data by a command (column 9, lines 52-65, where a command may allow the router to leak or block LSAs depending on the filter type).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow.

Neither Guerrero nor Pillay-Esnault expressly teaches a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

> routes are exported to an interior routing protocol (page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

6. As per claim 2, Guerrero further teaches:

wherein maintaining a count of routes comprises maintaining a count of addresses (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table), and

wherein rejecting additional routes comprises rejecting additional addresses when the count exceeds an export limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not teach a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

routes exported from an exterior routing protocol to an interior routing protocol (Hunt, page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

7. As per claim 4, Pillay-Esnault further teaches receiving from the client an export filter in association with the command (column 9, lines 60-62).

8. As per claim 8, Guerrero teaches a method comprising:

maintaining a count of addresses in a table (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table); and

rejecting additional addresses when the count exceeds an address limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not expressly teach waiting for intervention by a client before changing export policies. Pillay-Esnault teaches selective LSA blocking wherein:

> a device may be configured to export and block link data by a command (column 9, lines 52-65, where a command may allow the router to leak or block LSAs depending on the filter type, and the blocking policy is changed by the command).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow.

Guerrero does not teach a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

> routes are exported to an interior routing protocol (page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method

such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

9. As per claim 9, Guerrero further teaches maintaining a count comprising maintaining respective counts for instances of the interior routing protocol (page 2, paragraph [0028], where each lookup table modification device contains an address counting module, which maintains a count for each instance of the updater), and wherein rejecting additional routes comprises:

identifying one of the instances of the interior routing protocol to which the routes were exported (page 2, paragraph [0028], where the counting module only counts for the specific instance of the modification device that it is located on);

comparing the respective count for the identified one of the instances (page 2, paragraph [0028], where the counting module compares the count of the address with the maximum limit the table can contain); and

rejecting additional routes exported to the interior routing protocol to the identified one of the instances based on the comparison (page 2, paragraph [0028], where

the address counting module rejects updates if the instruction involves adding an address when the memory is full).

10. As per claim 10, Pillay-Esnault further teaches receiving a command that specifies an export condition and an associated one of the instances of the interior routing protocol (column 9, lines 60-62, also column 10, lines 26-39, where a command is sent and may filter traffic using SPF or RIP routing protocols).

Pillay-Esnault does not teach that the leak filter is to maintain a maximum count of routes to be leaked. Guerrero teaches a method comprising limiting the number of addresses exported to a network device comprising:

an export limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full); and

maintaining the respective count for the specified instance (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table).

11. As per claim 11, Guerrero teaches a method comprising:

counting a number of routes exported on the network device to a process executing on the network device (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table); and

Guerrero does not expressly teach the limit being set by a command from a client. Pillay-Esnault teaches selective LSA blocking wherein:

receiving a command that specifies an export condition and an associated one of the instances of the interior routing protocol (column 9, lines 60-62, also column 10,

lines 26-39, where a command is sent and may filter traffic using SPF or RIP routing protocols).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow

Neither Guerrero nor Pillay-Esnault expressly teaches a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

> routes are exported to an interior routing protocol (page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph

[0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

12. As per claim 12, Guerrero further teaches:

an export limit indicative of a maximum number of routes that can be exported (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full);

comparing the counted number of routes to the export limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full); and

rejecting additional routes exported when the counted number of routes exceeds the export limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

13. As per claim 13, Pillay-Esnault further teaches that a device may be configured to export and block link data by a command (column 9, lines 52-65, where a command may allow the router to leak or block LSAs depending on the filter type, and the blocking policy is changed by the command).

14. As per claim 15, Guerrero further teaches updating routing information when the count exceeds the export limit to clear the routes exported (page 2, paragraph [0028], where the lookup table modification device may accept the update instruction and drop routes from the table to perform the update).

15. As per claim 16, Guerrero teaches a method comprising limiting the number of addresses exported to a network device (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not expressly teach the limit being set by a command from a client.

Pillay-Esnault teaches selective LSA blocking wherein:

receiving a command that specifies an export condition and an associated one of the instances of the interior routing protocol (column 9, lines 60-62, also column 10, lines 26-39, where a command is sent and may filter traffic using SPF or RIP routing protocols).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow

Guerrero does not teach a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

> routes exported from an exterior routing protocol to an interior routing protocol (Hunt, page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

16. As per claim 18, Guerrero teaches:

> an export limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full); and

a control unit that limits a number of routes exported in accordance with the export limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not expressly teach the limit being set by a command from a client.

Pillay-Esnault teaches selective LSA blocking wherein:

receiving a command that specifies an export condition and an associated one of the instances of the interior routing protocol (column 9, lines 60-62, also column 10, lines 26-39, where a command is sent and may filter traffic using SPF or RIP routing protocols).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow

Guerrero does not teach a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

routes exported from an exterior routing protocol to an interior routing protocol (Hunt, page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

17. As per claim 19, Guerrero further teaches a counter to count the routes exported and generate a count, wherein the control unit compared the count to the export limit and limits the number of routes exported based on the comparison (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

18. As per claim 20, Guerrero further teaches that the control unit rejects additional routes to be exported when the count exceeds the export limit (page 2, paragraph

[0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

19. As per claim 21, Hunt further teaches including an exterior routing protocol that supports a larger number of routes than the interior routing protocol (Hunt, page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF). BGP protocols maintain routes between ASes, therefore is theoretically capable of maintaining routing information to all systems on a network. OSPF is used within an AS, and therefore maintains routing information only with a selection of computers on the greater network).

20. As per claim 22, Pillay-Esnault further teaches that the control unit communicates with an internet service provider via the exterior routing protocol (column 10, lines 8-23, where the LSAs may be directed toward an ISP).

21. As per claim 23, Guerrero further teaches a plurality of instances of the counter executing on the system, wherein the control unit separately limits the number of routes exported to each of the instances (paragraphs 26-28, where the memory section may be divided into a plurality of sections, and the address counter may determine that the selected memory section is full and reject the update based on the maximum number of allowed entries).

22. As per claim 24, Guerrero further teaches that the control unit includes a plurality of counters to maintain respective counts for the number of routes exported to each of the instances (paragraphs 26-28, where the memory section may be divided into a

plurality of sections, and the address counter may determine that the selected memory section is full and reject the update based on the maximum number of allowed entries).

23. As per claim 25, Guerrero further teaches that the control unit identifies an instance of the interior routing protocol to which routes were exported, accesses the respective counter to compare the stored count with an associated limit, and rejects additional routes exported to the identified instance based on the comparison (paragraphs 26-28, where the memory section may be divided into a plurality of sections, and the address counter may determine that the selected memory section is full and reject the update based on the maximum number of allowed entries).

24. As per claim 26, Guerrero further teaches that they system comprises a router (title, where the method is for use on a switch or router).

25. As per claim 27, Guerrero teaches a computer-readable medium comprising instructions to cause a processor to:

> maintain a count of routes (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table); and
>
> reject additional routes based on the count and a limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not expressly teach the limit being set by a command from a client. Pillay-Esnault teaches selective LSA blocking wherein:

> receiving a command that specifies an export condition and an associated one of the instances of the interior routing protocol (column 9, lines 60-62, also column 10,

lines 26-39, where a command is sent and may filter traffic using SPF or RIP routing protocols).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow

Guerrero does not teach a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

> routes exported from an exterior routing protocol to an interior routing protocol (Hunt, page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as

memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

26. As per claim 29, Pillay-Esnault further teaches receiving from the client an export filter in association with the command (column 9, lines 60-62).

27. As per claim 31, the combination of Guerrero and Hunt teaches the computer-readable medium of claim 27, further comprising instructions to cause the processor to:

maintain respective counts for instances of the interior routing protocol (page 2, paragraph [0028], where each lookup table modification device contains an address counting module, which maintains a count for each instance of the updater);

identify one of the instances of the interior routing protocol to which the routes were exported (page 2, paragraph [0028], where the counting module only counts for the specific instance of the modification device that it is located on);

compare the respective count for the identified one of the instances (page 2, paragraph [0028], where the counting module compares the count of the address with the maximum limit the table can contain); and

reject additional routes exported from the exterior routing protocol to the identified one of the instances based on the comparison (page 2, paragraph

[0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

28. As per claim 32, Pillay-Esnault further teaches receiving a command that specifies an export condition and an associated one of the instances of the interior routing protocol (column 9, lines 60-62, also column 10, lines 26-39, where a command is sent and may filter traffic using SPF or RIP routing protocols).

Pillay-Esnault does not teach that the leak filter is to maintain a maximum count of routes to be leaked. Guerrero teaches a method comprising limiting the number of addresses exported to a network device comprising:

an export limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full); and

maintaining the respective count for the specified instance (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table).

29. As per claim 33, Guerrero teaches a method comprising instructions to cause a processor to:

receive an export limit indicative of a maximum number of routes that may be exported (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full);

exporting routes to the specific instance of the protocol (paragraph 27, where a selected section may be updated via a request);

maintain a count of routes (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table);

comparing the count to the export limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full); and

reject additional routes based on the count and a limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not expressly teach the limit being set by a command from a client. Pillay-Esnault teaches selective LSA blocking wherein:

receiving a command that specifies an export condition and an associated one of the instances of the interior routing protocol (column 9, lines 60-62, also column 10, lines 26-39, where a command is sent and may filter traffic using SPF or RIP routing protocols).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow

Guerrero does not teach a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

> routes exported from an exterior routing protocol to an interior routing protocol (Hunt, page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

30. As per claim 34, Guerrero teaches a system comprising:

> maintaining a count of addresses in a table (page 2, paragraph [0028], where the address counting module counts addresses in the lookup table); and

rejecting additional addresses when the count exceeds an address limit (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not expressly teach the limit being set by a command from a client.

Pillay-Esnault teaches selective LSA blocking wherein:

a device may be configured to export and block link data by a command (column 9, lines 52-65, where a command may allow the router to leak or block LSAs depending on the filter type).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow.

Neither Guerrero nor Pillay-Esnault expressly teaches a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of configuring interior gateways wherein a statement announces routes from an external system such that:

routes are exported to an interior routing protocol (page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the

addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

31. As per claim 35, Guerrero further teaches a control unit that accesses the counter to compare the count with the export limit to limit the number of routes that may be exported (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

32. As per claim 36, Guerrero does not expressly teach the limit being set by a command from a client. Pillay-Esnault teaches selective LSA blocking wherein:

a device may be configured to export and block link data by a command (column 9, lines 52-65, where a command may allow the router to leak or block LSAs depending on the filter type).

33. As per claim 37, Guerrero teaches a system comprising:

a control unit that prevents a protocol module from exporting more than an export limit of the network routes to another protocol (page 2, paragraph [0028], where the address counting module rejects updates if the instruction involves adding an address when the memory is full).

Guerrero does not expressly teach the limit being set by a command from a client.

Pillay-Esnault teaches selective LSA blocking wherein:

a first routing protocol module and a second routing protocol module, wherein the first routing protocol module exports network routes to the second routing protocol module, and an interface to receive a command that specifies an export limit (column 9, lines 52-65, where a command may allow the router to leak or block LSAs depending on the filter type).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a count such as described by Guerrero as a filter type as taught by Pillay-Esnault. Pillay-Esnault teaches that a command may be used to control a filter for exporting or blocking Link State Advertisements (Pillay-Esnault, column 9, lines 60-62). It would be beneficial for a filter to be set up to prevent the table from exceeding a defined memory space, rejecting addresses when the table is full, (Guerrero, page 2, paragraph [0028]), which prevents overflow.

Neither Guerrero nor Pillay-Esnault expressly teaches a specific routing protocol or type of route to use in his routing update method, only that the addresses may be limited and that additional addresses over a limit can be rejected. Hunt teaches a method of

configuring interior gateways wherein a statement announces routes from an external system such that:

> routes are exported to an interior routing protocol (page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use a limiting method such as that taught by Guerrero with a route exporting method such as that taught by Hunt. The limiting method prevents the table from exceeding a defined memory space (rejecting addresses when the table is full, page 2, paragraph [0028]), which prevents overflow. This would be beneficial in any routing scheme, as memory is defined and limited in all computer systems. Hunt's method limits what type of routes are defined in the routing table, which would further limit the routes that could be updated in Guerrero's method. This would allow the table to be updated more quickly, as less updates would have to be processed, which would further progress toward Guerrero's goal of accelerating updating of tables (page 1, paragraph [0012]).

34. As per claim 38, Guerrero further teaches that they system comprises a router (title, where the method is for use on a switch or router).

35. As per claim 39, Pillay-Esnault further teaches receiving the command from a remote client (column 9, lines 52-65, where the hub and spoke routers may receive commands. Receiving commands inherently contains that the commands originate from an outside source).

36. As per claim 40, Pillay-Esnault further teaches that the remote client comprises one of a human user and an automated script (column 9, lines 52-65, where the hub and spoke routers may receive commands. Receiving commands inherently contains that the commands originate from a human or scripted device).

37. As per claim 41, Hunt further teaches that the first protocol module comprises an exterior routing protocol module and the second routing protocol module comprises an interior routing protocol module (page 10, paragraph 1, where the routes are received via BGP and advertised via OSPF, showing that the addresses were received from an external protocol (BGP) and were exported to an interior protocol (OSPF)).

38. Claims 5, 6, 14, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0188018, Guerrero et al, US 7 334 047, Pillay-Esnault, and *TCP/IP Network Administration*, Hunt as applied to claims 1, 11, 17, and 27 above, and further in view of US 6 212 188, Rochberger et al.

39. As per claim 5:

Neither reference teaches a method to update the routing information in response to a state change of the device. Rochberger teaches a method of routing in a network when a node is in overload state comprising:

> updating routing information to associate the routes with a maximum metric when the count exceeds the export limit; and advertising the updated routing information to a network device (Column 5, lines 30-35, where the overloaded node sends a message to other nodes notifying itself as being overloaded).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include an overload notification such as that described by Rochberger in a network system such as that taught by Guerrero. Guerrero's system would benefit, as it could notify other devices when the address limit within a table has been reached, relieving the processing required for rejecting additional addresses sent. The notification method described by Rochberger can be used in any system, as it only describes how a node reacts to being in an overload state, and does not affect the performance of the node in normal functions. This would allow the notification method to be used in any system, including that taught by Guerrero, and with any routing protocols, such as those taught by Hunt.

40. As per claim 6:

Neither reference teaches a method to update the routing information in response to a state change of the device. Rochberger teaches a method of routing in a network when a node is in overload state comprising:

> updating routing information to set an overload bit of a link state prefix associated with the routes when the count exceeds the export limit (Column 2, lines 8-14, where the state information is contained in PTSE messages. Along with column 5, lines 30-35, where the overloaded node sends a PTSE message to other nodes notifying itself as being overloaded, it is inherent that the PTSE contains the overload information, and is changed when the node goes into overload status); and

advertising the updated routing information to a network device (Column 5, lines 30-35, where the overloaded node sends a message to other nodes notifying itself as being overloaded).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include an overload notification such as that described by Rochberger in a network system such as that taught by Guerrero. Guerrero's system would benefit, as it could notify other devices when the address limit within a table has been reached, relieving the processing required for rejecting additional addresses sent. The notification method described by Rochberger can be used in any system, as it only describes how a node reacts to being in an overload state, and does not affect the performance of the node in normal functions. This would allow the notification method to be used in any system, including that taught by Guerrero, and with any routing protocols, such as those taught by Hunt.

41. As per claim 14:

Neither reference teaches a method to update the routing information in response to a state change of the device. Rochberger teaches a method of routing in a network when a node is in overload state comprising:

updating routing information to associate the routes with a maximum metric when the count exceeds the export limit; and advertising the updated routing information to a network device (Column 5, lines 30-35, where the overloaded node sends a message to other nodes notifying itself as being overloaded).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include an overload notification such as that described by Rochberger in a network system such as that taught by Guerrero. Guerrero's system would benefit, as it could notify other devices when the address limit within a table has been reached, relieving the processing required for rejecting additional addresses sent. The notification method described by Rochberger can be used in any system, as it only describes how a node reacts to being in an overload state, and does not affect the performance of the node in normal functions. This would allow the notification method to be used in any system, including that taught by Guerrero, and with any routing protocols, such as those taught by Hunt.

42. As per claim 30, Guerrero further teaches updating routing information when the count exceeds the export limit to clear the routes exported (page 2, paragraph [0028], where the lookup table modification device may accept the update instruction and drop routes from the table to perform the update).

Guerrero does not expressly teach waiting for intervention by a client before changing export policies. Pillay-Esnault teaches selective LSA blocking wherein:

a device may be configured to export and block link data by a command (column 9, lines 52-65, where a command may allow the router to leak or block LSAs depending on the filter type, and the blocking policy is changed by the command).

Neither reference teaches a method to update the routing information in response to a state change of the device. Rochberger teaches a method of routing in a network when a node is in overload state comprising:

updating routing information to associate the routes with a maximum metric when the count exceeds the export limit; and advertising the updated routing information to a network device (Column 5, lines 30-35, where the overloaded node sends a message to other nodes notifying itself as being overloaded).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include an overload notification such as that described by Rochberger in a network system such as that taught by Guerrero. Guerrero's system would benefit, as it could notify other devices when the address limit within a table has been reached, relieving the processing required for rejecting additional addresses sent. The notification method described by Rochberger can be used in any system, as it only describes how a node reacts to being in an overload state, and does not affect the performance of the node in normal functions. This would allow the notification method to be used in any system, including that taught by Guerrero, and with any routing protocols, such as those taught by Hunt.

Conclusion

43. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 7 369 556, Rekhter et al teaches a router for VPN employing tag switching.

US 7 328 278, Pesce et al teaches a method and network element for sharing routing information.

US 7 307 990, Rosen et al teaches shared communications network employing VPN identifiers.

US 7 292 585, Slaughter et al teaches a system and method for storing and utilizing routing information in a network.

US 7 286 479, Bragg teaches routing for a communication network.

US 7 245 619, Guan et al teaches a method and apparatus for managing routes.

US 7 116 665, Balay et al teaches a method and system for a distributed provider edge.

US 2002/0191541, Buchanan et al teaches a system and method for topology constrained routing policy provisioning.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS RICHARDSON whose telephone number is (571) 270-1191. The examiner can normally be reached on Monday through Thursday, 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Vaughn can be reached on (571) 272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/John Follansbee/
Supervisory Patent Examiner, Art Unit 2151